

Appln No. 09/880,714

Amdt date August 23, 2004

Reply to Office action of February 23, 2004

REMARKS/ARGUMENTS

Claims 1-3 and 5-23 will be pending in this application upon entry of the above amendments. Claims 1, 8, 14, 17, and 19-20 have been amended. Claims 21-23 have been added. Claim 4 has been cancelled. The amendments find full support in the original specification, claims, and drawings. No new matter has been added. In view of the above amendments and remarks, re-examination, reconsideration, and an early indication of allowance of the now pending claims 1-3 and 5-23 are respectfully requested.

The Examiner objects to Figures 2 and 5 on the basis that there are no descriptive legends on the boxes. Applicant submits herewith replacement Figures 2 and 5 which include the requested descriptive legends. Withdrawal of the objection to the drawings is therefore respectfully requested.

The Examiner objects to the title of the invention as being non-descriptive of the invention. The title of the invention has been amended, based on the Examiner's suggestion, to "WDM Communications Network With Regeneration and Switching." Applicant submits that the amended title is clearly descriptive of the invention as recited by the claims. Withdrawal of the objection to the title of the invention is respectfully requested.

The specification has been amended on pages 7 and 8 to correct references to "Figure 4" to references to "Figure 5." Entry of the amendment is respectfully requested.

The Examiner rejects claim 8 under 35 U.S.C. 112, second paragraph, for insufficient antecedent basis for the limitation

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"the switching unit." Amended claim 1 now provides sufficient antecedent basis for this limitation. Withdrawal of the rejection under 35 U.S.C. 112, second paragraph, is respectfully requested.

Claims 1, 4, 9-10, 14, and 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bala et al. (U.S. Patent No. 6,335,992) in view of Marmur (U.S. Patent No. 6,466,886). Applicant respectfully traverses this rejection.

Claim 1 has been amended to recite that "wherein the network node further comprises an electrical switching unit arranged, in use, to facilitate any one of the electrical channel signals to be selectively converted and dropped at the network node via the secondary interface unit, or converted and multiplexed into the outgoing WDM signal via the second network interface unit; and wherein the electrical switching unit is capable of switching electrical channel signals having different data-protocols." Neither Bala et al. nor Marmur, alone or in combination, teach or suggest this limitation.

The Examiner relies on Marmur for the teaching of a 3R regeneration unit. The teachings of Bala et al. are relied upon as disclosing the recited switch architecture. However, Bala et al. fails to disclose a switch architecture for a WDM network node in which an electrical switching unit is used to switch multi-protocol electrical channel signals converted from a demultiplexed WDM optical signal. Rather, Bala et al. teaches with respect to reference 120 in Figure 5C, an optical channel switch which provides format independence of the switch architecture. Specifically, Bala et al. states:

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"This [hybrid electrical-optical architecture shown in Figure 5C] permits the format and/or bit-rate of signals applied to middle stage 120 to be independent. For example, the TRs can be operated at 40 Gb/s without any demultiplexing down to signals sub-rates such as OC-48." (Col. 12, lines 11-21) (Emphasis added).

Based on this statement, the switch architecture disclosed in Bala is not one which permits multi-protocol electrical channel signals converted from a demultiplexed WDM optical signal to be switched using an electrical switching unit. If anything, Bala et al. teaches away from the invention as claimed in amended claim 1.

This limitation in the electronic switch fabrics disclosed in Bala et al. may be seen throughout the disclosure, such as, for example, in table 2 which specifies the specific fabric data rate for each of the disclosed embodiments. Due to synchronization, that is, timing and control necessary in the electrical switch architectures disclosed in Bala (see, e.g. Col. 7, lines 19-59), this incapability associated with format-independent electrical switching is present in all of the embodiments disclosed in Bala et al., irrespective of the specific fabric data rate of a particular electrical switch fabric that is used.

Thus, even the combination of Bala et al. and Marmur fail to teach or suggest all of the limitations of claim 1. Accordingly, Applicant submits that claim 1 is now in condition for allowance.

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Amended independent claims 17; 19, and 20, as well as new claim 22 include limitations that are similar to the limitations of claim 1, which make claim 1 allowable. Accordingly, Applicant submits that claims 17, 19, 20, and 22 are in condition for allowance.

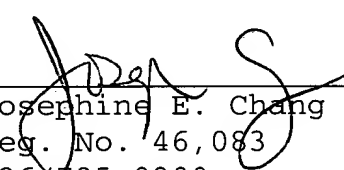
Claims 2-3, 5-16, 18-19, 21, and 23 are also in condition for allowance because they depend on an allowable base claim, and for the additional limitations contained therein.

In view of the above amendments and remarks, Applicant respectfully requests reconsideration, re-examination, and an early indication of allowance of the now pending claims 1-3 and 5-23.

Respectfully submitted,

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APPENDIX